

## Expected Practices

Specialty: Rheumatology

Subject: Gout

Date: June 12, 2014

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**Purpose:** Evaluation and Management of Gout

**Target Audience:** Primary Care Providers

**Expected Practice:**

If there is any clinical suspicion of septic arthritis, the patient should be immediately directed to Urgent Care or Emergency room for joint aspiration.

**Diagnosis of Gout**

1. Aspiration of negatively birefringent monosodium urate crystals under polarized compensated light microscopy from affected joint or bursa
2. Aspiration of concurrently inflamed joint, if present, or aspiration of a currently uninflamed but previously involved joint (intercritical gout)
3. Aspiration can be performed by primary care provider in clinic, but if unable to perform aspiration consider directing patient to urgent care or emergency room
4. Criteria for clinical diagnosis of gout (Malik A et al. J Clin Rheum 2009;15:22-4) involve the Rome criteria:
  - a. Serum urate > 7 mg/dl, presence of tophi, painful joint swelling of abrupt onset and clearing within 1-2 weeks: Presence of 2 out of 3 has positive predictive value of 77%

This *Expected Practice* was developed by a DHS Specialty-Primary Care Work Group to fulfill the DHS mission to ensure access to high-quality, patient-centered, and cost-effective health care. SPC Work Groups, composed of specialist and primary care provider representatives from across LA County DHS, are guided by 1) real-life practice conditions at our facilities, 2) available clinical evidence, and 3) the principle that we must provide equitable care for the entire population that LA County DHS is responsible for, not just those that appear in front of us. It is recognized that in individual situations a provider's clinical judgment may vary from this *Expected Practice*, but in such cases compelling documentation for the exception should be provided in the medical record.

**Secondary Causes of Hyperuricemia:**

- Obesity, dietary factors
- Excessive alcohol intake
- Metabolic syndrome, type 2 diabetes mellitus
- Hypertension
- Hyperlipidemia, modifiable risk factors for coronary artery disease or stroke

- Serum urate-elevating medications
- History of urolithiasis
- Chronic kidney, glomerular, or interstitial renal disease (e.g., analgesic nephropathy, polycystic kidney disease)
- In selected cases, potential genetic or acquired cause of uric acid overproduction (e.g., inborn error of purine metabolism or psoriasis, myeloproliferative, or lymphoproliferative disease, respectively)
- Lead intoxication

## Nonpharmacologic Modalities:

Specific Recommendations: GENERAL HEALTH, DIET, AND LIFESTYLE MEASURES FOR GOUT PATIENTS#:		
# Evidence Grades for Recommendations: Level A: Supported by multiple (ie, more than one) randomized clinical trials or meta-analyses Level B: Derived from a single randomized trial, or nonrandomized studies. Level C: Consensus opinion of experts, case studies, or standard-of-care.		
• Weight loss for obese patients, to achieve BMI that promotes general health • Healthy overall diet ^      • Smoking cessation • Exercise (Achieve physical fitness)      • Stay well hydrated		
Avoid	Limit	Encourage >
• Organ meats high in purine content (eg, sweetbreads, liver, kidney) B	Serving Sizes of: • Beef, Lamb, Pork • Seafood with high purine content (eg, sardines, shellfish) B	• Low-fat or non-fat dairy products B
• High fructose corn syrup-sweetened sodas, other beverages, or foods C	• Servings of naturally sweet fruit juices • Table sugar, and sweetened beverages and desserts • Table salt, including in sauces and gravies C	• Vegetables C
• Alcohol overuse (defined as more than 2 servings per day for a male and 1 serving per day for a female) in all gout patients B  • Any alcohol use in gout during periods of frequent gout attacks, or advanced gout under poor control C	• Alcohol (particularly beer, but also wine and spirits) in all gout patients B	

^Without a specific task force panel (TFP) vote, adherence to diets for cardiac health and control of co-morbidities such as obesity, metabolic syndrome, diabetes, hyperlipidemia, and hypertension was stressed for gout patients, as appropriate.  
 > The TFP recommendation to "encourage" intake was not intended to advocate excesses in consumption of specific dietary items. There was a lack of TFP voting consensus on: Cherries and Cherry Products, Ascorbate (In Supplements or Foods), Nuts, Legumes. The TFP did not specifically vote on the question of limits on consumption of purine-rich vegetables and legumes.

**Indications for Pharmacologic Urate Lowering Therapies (ULT):** Any patient with established diagnosis of gouty arthritis and:

- Tophus or tophi
- > 2 attacks per year
- CKD stage 2 or worse
- Past urolithiasis

**Urate Lowering Therapies:** goal uric acid level of <5-6

Allopurinol

1. Starting dosage should be no greater than 100 mg/day for any patient, and start at 50 mg/day in stage 4 or worse CKD (*evidence B*).

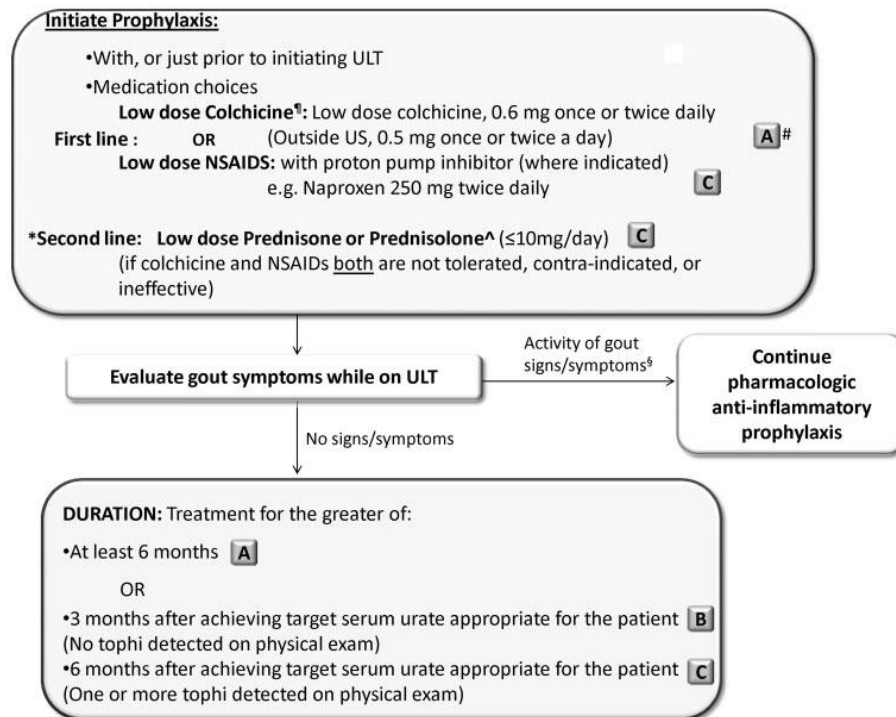
2. Gradually titrate maintenance dose upward every 2–5 weeks to appropriate maximum dose in order to treat to chosen SUA target (*evidence C*).
3. Dose can be raised above 300 mg daily, even with renal impairment, as long as it is accompanied by adequate patient education and monitoring for drug toxicity (e.g., pruritis, rash, elevated hepatic transaminases; *evidence B*).
4. Prior to initiation, consider HLA–B\*5801 in selected patients, specifically in subpopulations at higher risk for severe allopurinol hypersensitivity reaction (e.g., Koreans with stage 3 or worse CKD, and Han Chinese and Thai irrespective of renal function; *evidence A*).

#### Uricosuric therapy

1. Probenecid is the first choice among uricosuric agents for ULT monotherapy (*evidence B*).
2. In gout patients with a creatinine clearance <50 ml/ minute, probenecid is not recommended as first-line ULT monotherapy (*evidence C*).
3. Use of agents other than probenecid with clinically significant uricosuric effects, such as fenofibrate and losartan, can be therapeutically useful as components of a comprehensive ULT strategy (*evidence B*).
4. History of urolithiasis contraindicates first-line uricosuric urate-lowering monotherapy (*evidence C*).
5. Urinary uric acid should be measured before initiation of uricosuric ULT (*evidence C*). Elevated urine uric acid indicative of uric acid overproduction contraindicates uricosuric ULT (*evidence C*).
6. Continue to monitor urinary uric acid during uricosuric ULT (*evidence C*). Consider urine alkalization (e.g., with potassium citrate) with monitoring of urine pH, in addition to increased fluid intake, as a risk management strategy for urolithiasis (*evidence C*).

**Management of acute gouty attack and/ or prophylaxis against acute gout flares:** (for details please refer to part II of guidelines Arthritis Care & Research 2012; 64: 1447–1461)

1. An acute gouty arthritis attack should be treated with pharmacologic therapy initiated within 24 hours of onset (*evidence C*).
2. Established pharmacologic urate lowering therapy should be continued without interruption during an acute attack of gout (*evidence C*).
3. NSAIDs, corticosteroids, and oral colchicine are appropriate first- line options for treatment of acute gout and certain combinations can be employed for severe or refractory attacks (*evidence A*).
4. Pharmacologic anti-inflammatory prophylaxis is recommended for all gout patients when urate lowering therapy is initiated, and should be continued if there is evidence of continuing disease activity, and/ or serum urate target has not been achieved (*evidence A-C*).
5. Oral colchicine is an appropriate first line gout attack prophylaxis therapy, with appropriate dose adjustment in chronic kidney disease and evaluation for drug interactions, unless there is lack of tolerance or medical contraindication (*evidence A*). Low-dose NSAID therapy is an appropriate choice for first- line gout attack prophylaxis, unless there is lack of tolerance or medical contraindication (*evidence C*).



<sup>^</sup>Without specific task force panel (TFP) vote, the TFP advised that this measure requires particular, continued attention to risk-benefit ratio

<sup>§</sup> Examples include: acute gouty arthritis in the past 3 months, presence of palpable tophus or tophi, chronic tophaceous gouty arthropathy (with chronic synovitis) in the past 3 months

<sup>\*</sup>Lack of consensus: Prednisone/prednisolone at doses above 10 mg/day.

<sup>‡</sup> The TFP did not specifically address case scenarios involving renal impairment adjusted colchicine dosing for gout attack prophylaxis

<sup>#</sup> Evidence Grades for Recommendations:

**Level A:** Supported by multiple (ie, more than one) randomized clinical trials or meta-analyses

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**Level C:** Consensus opinion of experts, case studies, or standard-of-care.

### Please refer to DHS Rheumatology via eConsult when:

- I. Assistance is needed with diagnostic evaluation/ help with joint aspiration (mostly intercritical gout)
- II. Unclear etiology of hyperuricemia [after exclusion of items listed above]
- III. Treatment of refractory gout
  - a. persistent symptoms and signs
  - b. difficulty in reaching target serum urate levels (<6 mg/dl or <5mg/dl in certain occasions) particularly with a trial of urate lowering therapy
  - c. multiple and/ or serious adverse events from pharmacologic therapy
- IV. Gout in the context of renal, hepatic, or other organ dysfunction or comorbidity
- V. Chronic tophaceous gout
- VI. Solid organ Transplant Gout